



March 10, 2011

DOWL HKM
4041 B Street
Anchorage, AK 99503

ATTENTION: Steve Erskine

Dear Steve:

**Reference: Noorvik Health Clinic Addition and Remodel
Remodel Area – Final Mechanical & Electrical Inspection**

Per your request, Keegan Rauf and I traveled to Noorvik on March 7th to perform a substantial completion inspection of the remodel portion of the referenced facility. We consider the mechanical system substantially complete, however the electrical cannot be considered substantially complete until all light fixtures are installed in Waiting 102. Noted below are our comments.

Mechanical:

1. General:
 - a. The fintube piping is exposed under the fintube cover where it penetrates the floor. We recommend it be insulated and jacketed with a durable cover such as aluminum. (from Dec. 22 report)
 - b. The water pressure to clinic is very low, typically about 20 psi. This pressure meets the minimum requirements of the Uniform Plumbing Code (15 psi). The domestic water system does work, but would operate better if the pressure was higher (40 to 50 psi). Hopefully in the near future the village will increase the pressure in the water lines that serve the clinic.
2. Waiting 102: The existing side wall sprinkler heads should be removed back to the main and capped. The wall should be patched and painted to match.
3. Toilet 115: Secure dryer wall cap to exterior siding.
4. Pharmacy 122: Insulate exhaust duct below floor.
5. Corridor 123: Insulate elbow on pipe above ceiling located near door into existing clinic.
6. Morgue 135: Label thermostats to indicate what they operate – exhaust fan or fintube.
7. Comm. 203: Insulate exhaust duct below floor.
8. Sleeping 111: Remove temporary cover from sprinkler head.
9. Sleeping 112: Remove temporary cover from sprinkler head.
10. Dental 130:
 - a. Label dental exhaust wall switch. (from Dec. 22 report)
 - b. Recommend the dental vacuum separator be secured to the floor or wall. (from Dec. 22 report)
11. Vestibule 134: We recommend the day tank pump package be enclosed in a removable sheet metal cover. As installed the fuel shutoff valves and piping are exposed and subject to tampering by the public. (from Dec. 22 report)

12. Storage 201: We recommend the dental compressor and vacuum pump be secured to the floor. (from Dec. 22 report)
13. Mechanical 202:
 - a. Boiler fuel oil flexible piping is up against the boiler return pipe connection and is buried in the pipe insulation. Cut back return pipe insulation so that the fuel oil flex piping is not covered by the insulation. Note this occurs on both boilers.
 - b. The boiler controls appeared to be working correctly however the control contractor was not on site to demonstrate the boiler or HRV controls. Provide written description of the control settings and as-built sequence of operations.
 - c. The sprinkler double check valve isolation valves need to be locked open with a chain and pad lock to prevent unauthorized shutdown of the sprinkler system.
 - d. The sprinkler system drawings should be updated there is no sprinkler head in room 133.
14. Warm Storage Building:
 - a. The fuel pipe from the main tank to oil heater in the building is exposed to damage between the tank and the building. The installation is per the mechanical drawings, however we recommend unistrut being attached to the building exterior and extended over to the tank to secure and protect the copper fuel pipe. Galvanized unit strut would be attached to the building and extended as close to the tank as possible; the copper pipe would be attached to the underside of the unistrut.
15. Exterior: The existing clinic fuel tank vent pipe is uncoated steel and is not tall enough to properly disperse the vapors. Recommend the vent be replaced with a galvanized pipe approximately 6 feet tall.

Electrical

1. General: Most Type 'A' fixtures appear to have dirt and smudge marks remaining from fixture installation. Clean visible surface elements of all light fixtures.
2. Offices & Reception 103:
 - a. Fixtures did not contain step-dimming ballasts, as designed. Bi-level switching was accomplished by switching individual fixtures completely on or completely off. There should be a credit towards the owner for not supplying the specified ballasts.
3. Vestibule 101:
 - a. Telecom receptacle installation incomplete. Complete installation of receptacle or provide cover plate.
4. Waiting 102:
 - a. Type 'G' fixtures not installed at time of visit. Per the electrician, the fixtures are on order but have not yet arrived at the jobsite.
5. Reception 103:
 - a. Type 'D' fixtures not roughed-in or installed. The casework does not appear to allow for sufficient space to install under cabinet fixtures, no exception noted.
 - b. Telecom receptacle on east wall incomplete. Complete installation of receptacle or provide cover plate.

6. Exam 105:
 - a. West wall receptacle mounted directly behind door swing. Electrical drawings indicate receptacle to be outside of door swing.
 - b. Telecom receptacles at sink and east wall incomplete. Complete installation of receptacles or provide cover plates.
7. Corridor 106:
 - a. Per the design documents, all overhead light fixtures in Corridor 106 and Waiting 102 areas are switched via a single wall switch in Reception 103. This presents a potential hazard, as it requires employees to traverse through an entirely dark space to active or deactivate the overhead lights. We recommend either modifying (1) Type 'A' overhead fixture in Waiting 102 to function as a nightlight or adding a 3-way switch to the entrance from Corridor 114 and a 4-way switch from Corridor 123.
8. Break Room 113:
 - a. Telephone receptacle on west wall mounted at +60", plans indicate 18". No exception noted.
9. Toilet 115:
 - a. GFCI receptacle on south wall, near door, needs patching around the edges.
10. Vestibule 116:
 - a. (2) Colors of bulbs were installed in the Type 'A' overhead fixture. Relamp such that all bulbs are the same color, refer to Electrical Specification Section 16510.
11. Vestibule 134:
 - a. Provide new local disconnect switch for pumps located in fuel oil pump assembly.
12. Exterior:
 - a. The 8"x8"x8" junction box, located underneath the building, for connection to the outbuilding appears to have shifted due to ground heaving. As the feed to the outbuilding is currently run in rigid steel conduit, there is little to no flexibility in the system. Remove 36" section of rigid steel conduit and provide section of liquidtight flexible conduit for above grade portion of conduit with offset bend to allow for ground movement.
13. Outbuilding:
 - a. Per owner direction, provide permanent wiring for wall mounted electric heater.

If you have any questions concerning the above, please do not hesitate to call me.

Sincerely



Ralph R. DeStefano, P.E.
Associate Principal